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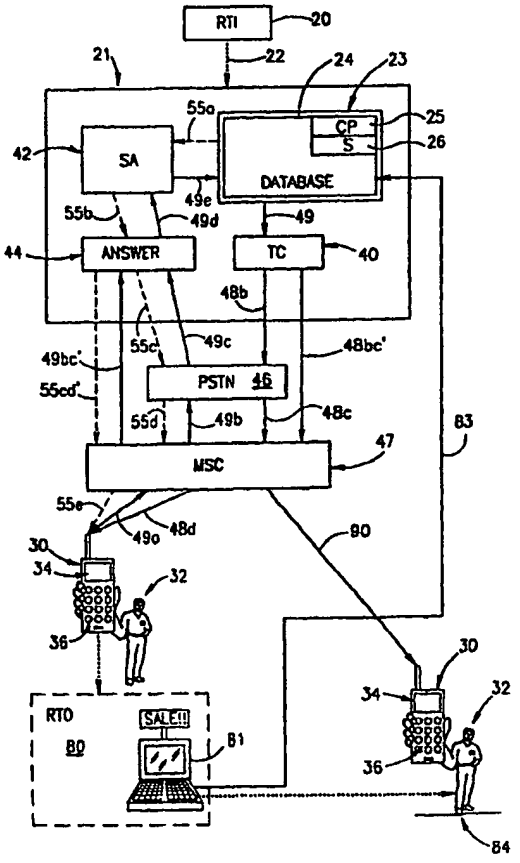
(54) Title: ELECTRONIC COUPONING SYSTEM AND METHODS FOR USE OF SAME

(57) Abstract

There is disclosed a system and method for distributing and redeeming electronic coupons. Initially, data corresponding to a coupon is created and placed into a database. This coupon data is transmitted over a radio communication network, such as a cellular communication network, to at least one mobile station, such as a cellular telephone, pager or the like. The coupon is then accessed on the mobile station, and upon its redemption, a signal corresponding thereto, is transmitted to the database. The database then responds by transmitting data to the mobile station resulting in the erasure, cancellation or decrementation of the redeemed coupon from the mobile station.



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ELECTRONIC COUPONING SYSTEM AND METHODS FOR USE OF SAME

FIELD OF THE INVENTION

The present invention is directed to paperless coupons and couponing systems, and in particular to methods for the creation of paperless electronic coupons for communication devices, particularly mobile stations such as cellular telephones, as well as methods for their distribution and use.

BACKGROUND OF THE INVENTION

Coupons are a popular form of advertising and sales promotion. Typically, coupons are printed on paper, and distributed through conventional channels, publications, leaflets, circulars, mailings, and over the Internet, as a user goes to a home page and prints the coupon therefrom. These paper coupons are cumbersome, forming thick piles, inconvenient, and sometimes embarrassing to carry, to a point where some consumers feel the coupon savings is simply not worth the trouble of carrying the coupon. Moreover, with today's mobile society, one may pass by a retail establishment without having the coupon for that establishment, and therefore, not patronize it.

From a retailer standpoint, these paper coupons present a problem as their use can not truly be limited. This is because a single person can obtain several of these paper coupons, leading to multiple uses, or even use the identical paper

coupon multiple times. Thus, in many cases, the purpose for the coupon is defeated.

SUMMARY OF THE INVENTION

The present invention improves the contemporary art by couponing over electronic communication networks, to overcome the disadvantages of paper coupons discussed above. The present invention takes advantage of radio communication technology, and in particular cellular technology, for couponing, as cellular networks typically include subscriber-based mobile stations. Two commonly employed mobile stations are cellular telephones or pagers (for example, display pagers), that are typically on or very close by the person of the subscriber at almost all times. Also, the coupon on the mobile station is not something extra to remember and carry, and since it is not outwardly displayed, avoids embarrassment upon its use. Moreover, the coupons in accordance with the present invention are produced rapidly, and can be updated in a short time.

The present invention provides a method for distributing and redeeming at least one electronic coupon comprising the steps of creating data corresponding to at least one coupon, placing this data corresponding to the coupon into a database, transmitting the data from the database, such as in the form of a data packet, over a radio communication network, such as a cellular communication network, to at least one mobile station, such as a cellular telephone, pager or the like. The coupon is then accessed on the mobile station, such that upon redemption of at least one coupon data noting this redemption is transmitted to the database. The

database can then respond by transmitting data to the mobile station erasing the now redeemed coupon from the mobile station.

The present invention additionally provides a method for distributing and redeeming at least one electronic coupon comprising the steps of, creating first and second data corresponding to at least one coupon, placing this first and second data into a database and transmitting the first data from said database, such as in the form of a data packet, over a radio communication network, such as a cellular network, to at least one mobile station, such as a cellular telephone, pager or the like. The second data is then transmitted from the database, typically in the form of a data packet, over the radio communication network to the at least one mobile station, in response to a signal from the at least one mobile station, after this mobile station has received the first data. This transmission of this second data places at least one coupon on the at least one mobile station. Upon coupon redemption at a retailer or the like, redemption data, relating to the redeemed coupon or coupons is transmitted from the retailer or the like and received in the database, verifying the redemption of the at least one coupon. The database can then respond by transmitting data to the mobile station erasing the now redeemed coupon from the mobile station.

The present invention also provides an electronic couponing system having at least one storage device for storing at least one database therein. This database typically includes data corresponding to at least one coupon and data for monitoring the use of this at least one coupon, the storage device including a receiver for receiving transmissions corresponding to the use, typically

redemption, of this at least one coupon. There is a transcéiver in electronic communication with the storage device, for transmitting at least a first portion of the data corresponding to the at least one coupon from the database to at least one mobile station, such as a cellular phone, pager or the like, over a radio communication network. There is also an answerer for receiving communications from the at least one mobile station, that can send electronic signals indicating that a communication from the at least one mobile station has been made, and an automatic service attendant in electronic communication with the answerer and the storage device. This automatic service attendant is responsive to the electronic signals from the answerer and communicates with the database in the storage device to obtain at least a second portion of the data corresponding to the at least one coupon transmit the second data portion to the at least one mobile station over the radio communication network. Checking software can also be employed in the system and is preferably in communication with the service attendant. This checking software monitors coupon transmissions and either permits or denies subsequent transmissions, as typically requested by mobile station subscribers, provided the number of permitted transmissions, typically predetermined by the coupon issuer, of the requested coupons has not been met.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be described with respect to the accompanying drawings, where like reference numerals identify corresponding or like components. In the drawings:

Fig. 1 is a diagram of the present invention and a first embodiment of a method of the present invention;

Fig. 2 is a block diagram detailing coupon creation;

Figs. 3A-3G detail the various stages of the present invention on the screen of the cellular telephone during use; and

Fig. 4 is a diagram of the present invention and a second embodiment of a method of the present invention.

DETAILED DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the system and a first embodiment of the method of the present invention. Initially a retail issuer (RTI) 20 or other coupon issuer contacts a service center 21, by either electronic (detailed in Fig. 2 below) or non-electronic communications (indicated by dotted line arrow 22). The service center 21 includes a storage device 23 (at least one), for a database 24 (at least one). The database 24 stores data received from the retail issuer 20, in the form of a coupon (CP) 25 (in a data packet or the like). This database 24 also includes subscriber data (S) 26, and is electronically linked to a subscriber network, preferably a radio

communication network, such as a cellular network, for the electronic transmission of data, such as a coupon, to the mobile station(s) of the subscriber(s).

A cellular telephone 30 of a subscriber 32 is shown as the mobile station. This is exemplary only, as the present invention can be employed with other mobile stations such as pagers, for example, display pagers or the like. The cellular telephone 30 (shown in detail in Figs. 3A-3G) has a screen 34 capable of changing displays, these displays including menus, and a key panel 36, of various buttons, labeled accordingly, for controlling use of the cellular telephone 30, including performing manipulations of the displays on the screen 34. The cellular telephone 30 also includes internal electronics (hardware and software) capable of receiving and displaying data, including that transmitted from service center 21.

While only a single retail issuer is shown, this is exemplary only, as multiple retail issuers may participate in a single or multiple coupons, in accordance with the present invention. Similarly, a single subscriber 32 is exemplary only, as cellular networks typically include multiple subscribers.

Within the service center 21, the stored coupon data (CP) 25 has either been created in the service center 21 or remote therefrom, and is stored in the database 24. The database 24 includes operational data and executable data associated with the coupon(s) to be transmitted to the mobile station, and typically includes parameters associated with the coupon(s) transmitted. The data base also includes subscriber data (S) 26.

The service center 21 also includes a transceiver (TC) 40, such as a modem, linked (electronically) to the database 24, as well as an automatic service

attendant (SA) 42, linked (electronically) to the database 24. A call answerer 44 is linked (electronically) to the automatic service attendant 42.

The stored coupon data 25 preferably includes data, that upon transmission to the cellular telephone 30 of the subscriber 32, will result in a coupon 70 (shown on the screen display of Fig. 3D), and preferably also various menus, associated with each coupon (shown on the screen displays in FIGs. 3C, 3E and 3F). All data in the database 24, including data associated with use and redemption of the coupon (e.g., menu data, the coupon text, redemption data, etc.), is electronically transmitted over a cellular network to each cellular telephone 30, such as in a data packet, as described in the various cellular system standards such as IS-136. For example, this technology is successfully implemented in accordance with the technology known as Mail Push™, available from Cellcom, Herzelia, Israel, and described in Globes (Hebrew Edition) November 10, 1998, pages 51 and 62, this Globes article incorporated by reference herein.

Turning now to Fig. 2, the process for creating the coupon or coupons is now detailed. Initially, it is preferred that an electronic connection 22a, 22b (in accordance with arrow 22 above) be made to the service center 21, typically by a modem over the Internet or the like, at step 200. However, this electronic connection is not required and conventional delivery techniques are also permissible. Upon connection with the service center 21, the database 24 is accessed, at step 202. This database access pulls up a menu, that presents options, for example, creation of a new coupon, changing of a presently existing

coupon, or reporting to the retail issuer (RTI) 20 as to coupon creation and/or status.

The status of the coupon is displayed at step 208, and upon selecting the "NEW COUPON" option from the menu, a new coupon can now be created in step 210. This new coupon can have various parameters set. These parameters typically include the total number of coupons to be issued and/or the number of coupons to each individual subscriber, at step 212, the expiration date and/or time at step 214, distribution parameters, such as those based on subscriber profiles (e.g., families, senior citizens, single people), at step 216, and the actual coupon benefits (e.g., buy one, get one free), at step 218. The now created coupon data 25 is in the data base 24, reported and confirmed to the coupon issuer, typically the retail issuer (RTI) 20, at step 220, such that the coupon can be activated and transmitted to the mobile station of the subscriber as detailed below.

Should a change in the coupon be desired (in accordance with coupon status at step 208), change parameters 212a, 214a, 216a and 218a, corresponding to the coupon parameters 212, 214, 216, 218, may be activated to edit the set coupon parameters, with reporting and confirmation of the change(s) to the retail issuer in accordance with step 220.

Turning back to Fig. 1, the stored coupon data 25 along with the associated data for use and redemption of the coupon on the mobile station (here the cellular telephone 30), is transmitted from the service center 21, the data base 24 therein, over a cellular network. The transceiver 40 places a single call (to each subscriber individually) or a group call (to multiple subscribers at the same time) to each

subscriber 32, who is to receive the coupon, in accordance with the subscriber data (S) 26 of the database 24. The transceiver 40 makes the requisite communication with the mobile station (cellular telephone 30 of the subscriber 32) by calling a public switching network (PSTN) 46 that routs the call to the mobile switching center (MSC) 47, that in turn routs the call to the cellular telephone 30 of the subscriber 32, in accordance with conventional cellular communication technology. This transmission of the menu is, for example, in accordance with the Mail Push™ detailed above, and indicated along a path formed by arrows 48a-48d.

Alternately, the transceiver 40 makes the requisite communication with the mobile switching center (MSC) 47, indicated by arrow 48bc'. From the mobile switching center (MSC) 47, the transmission continues as above.

This transmission preferably results in a menu or menus, along with the associated data for their use and operation, on the cellular telephone 30. This transmission is a "direct" transmission, for it is initiated by the service center 21 to the cellular telephone 30 of the subscriber 32, without any activation or "calling in" by the subscriber 32.

Turning now to Fig. 3A, there is shown the cellular telephone 30 with its screen 34 displaying its default display. When the menu(s) (Figs. 3C and 3E) have been transmitted to the cellular telephone 30, by the above-detailed transmission, the subscriber 30 is notified, typically in either an audio form, such as a sound 50 from the cellular telephone 30, or a visual indication, such as a symbol 51 (also a flashing symbol) or a menu, or any combination thereof, that can appear on the default screen display, as shown in Fig. 3B. Once the subscriber 32 recognizes

that the transmission has been made, the cellular telephone 30 can be manipulated (by pressing buttons on the key panel 36) such that the screen 34 of the cellular telephone 30 (Fig. 3C) displays the requisite menu, here a menu with coupon selections.

Turning specifically to Fig. 3C, there is shown an example of a menu that has been transmitted to the cellular telephone 30 of the subscriber 32. The menu includes multiple coupon selections, typically displayed in a short form on the screen 34 of the cellular telephone 30. The selections are, for example, labeled 1 through n. The coupon(s), could be local, regional, national or international. For example, this particular subscriber 32 has received several coupon selections, labeled as 1 – n and include: 1. McDougals Restaurants; 2. We-R-Toys retail toy stores; 3. Superclean Cleaners; n. E-Z Rest Hotel.

The subscriber 32 then calls into the service center 21, and in particular the answerer 44 over the cellular network (mobile station center 47 and PSTN 46), along the path indicated by arrows 49a-49c. Alternately, the requisite communication can be directly from the mobile switching center (MSC) 47, indicated by arrow 49bc', to the answerer 44. The resultant transmission, detailed below, is known as a "call in" activated transmission, as it is activated by the subscriber 32.

With communication made with the answerer 44, the call is passed to the service attendant 42, that electronically approves or disapproves of the subscriber 32 (the connection), by a set of predetermined (preprogrammed) criteria, typically by password or code activation. Once the subscriber 32 (the connection) is

approved, the subscriber 32 manipulates the key panel 36 from the menu on the display screen 34 (Fig. 3C). This manipulation is also coordinated with actions of the service attendant 42, preferably with vocal description, or advertisement of the retailer (coupon issuer) and the coupon(s) according to the coupon(s) data stored in the database 24. The service attendant 42 includes the requisite hardware and software to accept and respond to push button commands from the key panel 36 of the mobile station, here the cellular telephone 30, and can also include the requisite hardware and software to accept and respond to vocal commands via the cellular telephone 30.

Once this selection is made, here, for example, if choice "1. McDougals Restaurant" is selected, checking software, linked to the database 24, in the attendant 42 is activated. This checking software performs an analysis, and if the subscriber 32 is eligible to receive selected coupon or coupons, here, the McDougals Restaurant coupon, a signal is sent to the data base 24 (along a path indicated by arrow 49e), calling up the requisite coupon or coupons (here the McDougals coupon) for release from the database 24. This transmission of the specific coupon or coupons is noted by the database, at a time proximate to the transmission therefrom.

With release of the desired coupon or coupons from the database 24 now authorized, these coupon(s), and in particular, data, in forms such as data packet(s), corresponding to the text forming the coupon 70 that will appear on the screen 34 of the cellular telephone 30 for redemption (as shown in Fig. 3D), and associated data, are then transmitted from the database 24 to the cellular

telephone 30 of the subscriber 32. Transmission is from the database 24 through the service attendant 42 to the answerer 44, along the path indicated by the broken line arrows 55a, 55b. From the answerer 44, the transmission may reach the mobile switching center 47 through the PSTN 46, as indicated by arrows 55c and 55d or alternately may come directly from the answerer 44 along the path indicated by the arrow 55cd', for example, in accordance with the Mail Push™ technology, as detailed above. The mobile switching center 47 then passes the transmission to the mobile station, here the cellular telephone 30 of the subscriber along the path indicated by the arrow 55e.

While the call in activated transmission was made to the service center 21, it could also be made into a communication port, such as a voice mail box or the like. This communication port is electronically connected to the checking software and the database 24, and could be either part of, or remote from the service center 21.

This checking software is such it will only allow the selected coupon(s), to be transmitted from the database 24 a predetermined number of times, as set by the coupon issuer. Should a subscriber 32 have already received his predetermined number of coupon(s) transmissions, the software is such that it will not allow any further transmissions of the coupon or coupons, when the subscriber 32 calls in requesting the same. However, should the subscriber 32 have not received his predetermined number of coupon(s) transmissions, the software is such that it will allow for further transmissions of the coupon or coupons, when the subscriber 32 calls into the service center 21 requesting the same.

With the actual coupon(s) having been transmitted to the cellular telephone 30, this typically requires the subscriber 32 to manipulate the various buttons on the key panel 36, to activate the screen 34, on which is displayed the actual coupon 70 for redemption. Moreover, the menu(s) and coupon(s) can be downloaded and stored in the mobile station, here the cellular telephone 30, and the subscriber 32, at any desired time (after the downloading is complete) can manipulate the key panel 36 to obtain the desired menu(s) or coupon(s) (typically by scrolling up or down therebetween).

The transmitted coupons are typically single use coupons. These coupons can be obtained from the service center 21 multiple times, if multiple time uses of this coupon are permissible. The number of times that a coupon may be transmitted to a subscriber and used, is a parameter determined by the issuer upon coupon creation, as detailed in Fig. 2 above.

In accordance with the example, as shown in Fig. 3D, the coupon 70 displayed on the screen 34 corresponds to menu selection "1", a single use coupon from McDougals Restaurants. This coupon 70 (within an outermost box formed by broken lines that typically is not part of the coupon display on screen but can be part of the coupon display on screen if the appropriate data has been transmitted), from the above described transmitted coupon portion, may include any one or all of a brief text section 72 (within an inner box formed by broken lines for emphasis in this drawing figure only), a first series of numbers 73, typically the subscriber's cellular telephone number (052-737373), a second coupon number 74 (74747), a random number 75 (7575) and a bar code 76. The coupon number 74 and random

number 75 can serve as verification that the coupon has been transmitted, and thus protect against additional non-permitted transmissions. Along with the bar code 76 (detailed below), data transmissions along path 83 (detailed below) communicating coupon use and/or redemption data may include data corresponding to the subscriber's cellular telephone number 73, the coupon number 74 and random number 75.

The mobile station, here the cellular telephone 30 is programmed with software that allows the subscriber to change screen displays and/or clear the screen entirely without deactivating or erasing the coupon menu or the actual coupon 70.

Throughout the time that the coupon or coupons have been transmitted to the cellular telephone 30, the subscriber 32 may manipulate the key panel 36 to clear the screen 34, possibly activating the default display (Fig. 3A), without deactivation any of the coupon(s) (although this is not necessary). Additionally, the menu and coupon(s) are transmitted in real time, with these transmissions being such that the resultant coupon is valid for a limited time period. Should this time period have elapsed, the selection on the menu (Fig. 3C) will be erased, and disappear therefrom, such that it can not longer be selected, and should the actual coupon have been transmitted to the cellular telephone (Fig. 3D), it will also be deactivated and erased, such that it can not be accessed.

Alternately, in another example, multiple menus may be transmitted to the cellular telephone 30 of the subscriber 32, in accordance with the transmission detailed above. In this example, a first menu may be activated on the screen 34 of

the cellular telephone 32, as shown in Fig. 3E. This first menu could be divided into categories, such as: 1. Restaurants; 2. Retail Stores (Shops); 3. Services; n. Travel. The menu would be manipulated by buttons on the key panel 36 in accordance with that detailed above.

Once a selection is made, for example, "1. Restaurants", a second menu, specific to restaurants, as shown and described above for Fig. 3F, could be activated on the screen 34 (of the cellular telephone 30). This menu includes selections 1-n of specific restaurants, 1. McDougals Restaurant; 2. Pizza House; 3. Pancake Den; and n. Sub Works. The menu displayed on the screen 34 can be manipulated with the buttons on the key panel 36, whereby should choice "1. McDougals Restaurant" be selected, the coupon could be transmitted to the cellular telephone 30, in accordance with the "call in" activated transmission, detailed above. The transmission would result in the coupon 70 on the screen display as shown in Fig. 3D.

Alternately, the coupon portion (or coupon portions) alone (as shown in Fig. 3D) can be transmitted to the cellular telephone 30 absent any menu(s), by this "direct" activated transmission. This is particularly useful in the case of cellular telephones with limited hardware and software capabilities. For these same reasons, this transmission of only the coupon 70, or one or more portions thereof, typically including the text 72, and a coupon number 74, random number 75 or a bar code 76 (as detailed in Fig. 3D) could also be used with mobile stations such as pagers or the like.

The subscriber 32, having his cellular telephone 30 with the requisite coupon(s) having been transmitted thereto, then makes the requisite purchase at the retail outlet (RTO) 80. At this point of sale, typically a cash register 81, the coupon 70 is redeemed. Upon redemption, the coupon 70 is deactivated and erased from the cellular telephone 30, either remotely or locally.

Remote deactivation and erasure of the coupon is preferably accomplished as the redeemer (cashier) at the Retail Outlet 80 enters a code into the cash register 81 or other similar computer device. The code is then converted to data that is transmitted to the service center 21, by conventional communications (and systems therefor) over a path 83 to the service center 21, and in particular, the database 24. Alternately, the bar code 76 can be scanned, with the scanned information converted to data and transmitted over the path 83 to the data base 24. The database 24, with this redemption data transmitted thereto, can activate the transducer 40.

Data will then be transmitted, preferably along paths 48a-48c, or alternately 48a-48bc' (in accordance with the data transmissions detailed above) and then along path 90 (also in accordance with the data transmissions detailed above), that cancels and erases the coupon from the cellular telephone. Alternately, this transmission of coupon cancellation and erasure data will be over path 55a-55d, or alternately 55a, 55b, 55cd' (in accordance with the data transmissions detailed above) and then along path 90, that cancels and erases the coupon from the cellular telephone.

Should the number of transmissions of the particular coupon be satisfied, any subsequent calls to the service center 21 for that same coupon will be detected by the checking software (in communication with the database 24) and the coupon will not be transmitted. In a similar manner, should additional transmissions of the coupon be permitted (the predetermined number of transmissions not yet exceeded) the subsequent call in will be detected by the checking software, that will permit coupon transmission in accordance with the transmissions detailed above. This process can continue until the allowed number of coupon transmissions has been met.

Alternately, the transmitted redemption data can simply remain stored in the data base 24. This data could be used to augment the coupon(s) transmission data stored in the database 24 (detailed above), that would be noted by the checking software in subsequent transmissions or denials of transmissions of coupon(s) as detailed above.

Alternately, coupon deactivation and erasure can be accomplished locally by pressing a button, typically the clear "CLR" button, on the key panel 36, or other buttons on the key panel 36, to activate a code. These deactivation and erasure methods are typically programmed into the cellular telephone 30 upon the transmission(s) from the service center 21.

Returning to the example above, with the subscriber's McDougals coupon 70 (here, for example, a coupon that can only be transmitted a single time), now deactivated and erased, the coupon menu from which it was selected can remain the same (as shown in Fig. 3C), except that any subsequent call-in will be detected

by the checking software that will deny any additional transmission of this McDougal's coupon. Alternately, the deactivation and erasure of the coupon will also result in its corresponding menu selection being erased from the coupon menu. This erasure from the menu typically advances the coupon selections (here, by one position), resulting in the display or menu on the screen 34 shown in Fig. 3G. The subscriber 30 is now at position 84, having left the retail outlet 80 with the redeemed coupon(s) deactivated and erased. Subsequent call-ins to the service center 22 may be made, but will be subjected to the checking software as detailed above.

The above-described method can now be repeated if desired. In this way, new coupons can be obtained as well as previously used coupons, provided these coupons can be transmitted and subsequently used (redeemed) multiple times (as detailed above).

For example, should a coupon, here the McDougals Restaurant coupon be permitted for multiple time (subsequent) transmissions and uses (redemptions), typically over a predetermined time period as set by the retailer (detailed above), the subscriber 32 would be permitted to make a repeat "call in" activated transmission, detailed above, to obtain a new coupon(s) (as shown in Fig. 3D). The menu having the selection would remain on the screen (as shown in Fig. 3C), as the data associated with its transmission would be such that this coupon associated therewith could be transmitted multiple times. Once the number of allowed coupon transmissions was met, the menu would be in accordance with that detailed above.

All other aspects of use and redemption would be in accordance with that described above.

Alternately, the subscriber 32 can download the desired coupon or coupons and store them in the cellular telephone. After redeeming the requisite coupon, the subscriber 32 can obtain additional coupons from those stored coupons (typically by manipulating the buttons on the key panel 36 so as to scroll therebetween, as detailed above).

Turning now to Fig. 4, there is detailed an alternate embodiment of the present invention. This alternate embodiment is similar in all aspects to the embodiment detailed above and shown in Figs. 1, 2 and 3A-3G, except where indicated. Specifically, numbers incremented by "100" are similar the corresponding numbers from which they were incremented, but have been provided with this incrementation for purposes of this embodiment (for example number 148 corresponds to number 48 of the first embodiment and 155 corresponds to number 55 of the first embodiment).

This embodiment involves a "call in" activated transmission, where the requisite coupon or coupons and associated data as to their use, redemption, cancellation and erasure (detailed above) are transmitted to the mobile station, here a cellular telephone 30 of the subscriber 32.

Initially, the coupon(s) is/are created and moved to the service center 21, for storage in the database 24 as detailed above. When a coupon or coupons is/are desired, the subscriber 32 calls the service center 21, and in particular the answerer 44, either from the mobile switching center 47 through the PSTN 46,

along a path indicated by arrows 149a-149c. Alternately, once the mobile switching center 47 has been contacted, the answerer 44 can be contacted directly, in accordance with that detailed above, along the path indicated by the arrow 149bc'.

As detailed above, the call is passed to the service attendant 42 (arrow 149d), that approves or disapproves of the subscriber 32 (the connection) typically by password or code activation. Once the subscriber 32 (the connection) is approved, the desired coupon or coupons can be selected with the assistance of the automatic service attendant 42, typically by pressing buttons on the key panel 36 of the cellular telephone 30. The service attendant 42 includes the requisite hardware and software to accept and respond to these push button commands from the cellular telephone 30, and can also include voice-recognition technology, as detailed above. Once a coupon or coupons have been selected, checking software, linked to the database 24, in the attendant 42 is activated. This checking software performs an analysis, and if the subscriber 30 is eligible to receive the requisite coupon or coupons, a signal is sent to the data base 24 (along a path indicated by arrow 149e), calling up the requisite coupon or coupons for release from the database 24.

These coupon(s) and associated data are then transmitted from the database 24 to the cellular telephone 30 of the subscriber 32, passing through the service attendant 42, and answerer 44, the PSTN 46 and the mobile switching center 47 along the path 155a-155e (indicated by the broken line arrows). Alternately, in accordance with that detailed above, the answerer 44 can directly transmit to the mobile switching center 47, along the path indicated by the arrow

155cd'. All coupon transmissions, and the associated data transmitted therewith, are, for example, in accordance with the Mail Push™ technology detailed above.

Coupon selection, if multiple coupons have been transmitted, is made by manipulating the key panel 36 of the cellular telephone 30, to scroll up or scroll down among the coupons. Coupon redemption is in accordance with the procedure detailed above.

Coupon erasure and cancellation data will then be transmitted, preferably along paths 189a-188c, or alternately 189a-189bc' (in accordance with the data transmissions for cancellation and erasure as detailed above and corresponding to paths 48a-48c and 48a-48bc') and then along path 190 (also in accordance with the data transmissions detailed above and corresponding to path 90 detailed above), that cancels and erases the coupon from the cellular telephone 30. Alternately, this transmission of coupon cancellation and erasure data will be over path 155a-155d, or alternately 155a, 155b, 155cd' (in accordance with the data transmissions detailed above) and then along path 190, that cancels and erases the coupon from the cellular telephone.

Alternately, the coupon portion alone (as shown in Fig. 3D) can be transmitted to the cellular telephone 30 absent any menu(s), by this "call in" activated transmission. This is particularly useful in the case of cellular telephones with limited hardware and software capabilities.

While preferred embodiments of the present invention have been described so as to enable one skilled in the art to practice the present invention, the preceding description is to be exemplary only. It should not be used to limit the scope of the

invention. The invention covers all modifications and equivalents within the spirit and scope thereof, and is defined by the following claims.

CLAIMS

1. A method for distributing and redeeming at least one electronic coupon comprising the steps of:

creating data corresponding to said at least one coupon;

placing said data corresponding to said at least one coupon into a database;

transmitting said data from said database over a radio communication network to at least one mobile station;

accessing said at least one coupon on said at least one mobile station; and

transmitting data to said database upon redemption of said at least one coupon.

2. The method of claim 1, further comprising:

transmitting data to said at least one mobile station erasing said at least one coupon from said mobile station in response to said redemption data.

3. The method of claim 1, wherein said radio communication network includes a cellular communication network.

4. The method of claim 1, wherein said step of transmitting said data from said database over a radio communication network to said at least one mobile station, is performed in response to a signal from said at least one mobile station.

5. The method of claim 4, further comprising the step of:

checking if said data corresponding to said at least one coupon has been transmitted to said mobile station.

6. The method of claim 5, wherein said checking step includes allowing for the transmission of said at least one coupon if said data corresponding to said at least one coupon has not been transmitted to said mobile station for a predetermined number of transmissions and denying the transmission of said coupon if said data corresponding to said at least one coupon has been transmitted to said mobile station for said predetermined number of transmissions.

7. The method of claim 1, wherein said data corresponding to said at least one coupon includes data corresponding to a menu having at least one coupon selection and said step of transmitting said data from said database over said radio communication network to at least one mobile station includes transmitting said data corresponding to said menu having at least one coupon selection.

8. The method of claim 7, further comprising selecting from said menu at least one coupon, and sending a signal corresponding to said selected at least one coupon to said database over said radio communication network.

9. The method of claim 1, wherein said step of transmitting said data from said database over a radio communication network to at least one mobile station includes transmitting said data in data packets over said radio communication network.

10. A method for distributing and redeeming at least one electronic coupon comprising the steps of:

creating data corresponding to said at least one coupon;

placing said data corresponding to said at least one coupon into a database;

transmitting said data from said database over a radio communication network to at least one mobile station to place said at least one coupon on said mobile station; and

receiving data in said database upon redemption of said at least one coupon verifying the redemption of said at least one coupon.

11. The method of claim 10, further comprising:

transmitting data to said at least one mobile station erasing said at least one coupon from said mobile station.

12. The method of claim 10, wherein said radio communication network includes a cellular communication network.

13. The method of claim 12, wherein said step of transmitting said data from said database over a radio communication network to said at least one mobile station, is performed in response to a signal from a communication from at least one mobile station.

14. The method of claim 13, further comprising the step of:

checking if said data corresponding to said at least one coupon has been transmitted to said mobile station.

15. The method of claim 14, wherein said checking step includes allowing for the transmission of said at least one coupon if said data corresponding to said at least one coupon has not been transmitted to said mobile station for a predetermined number of transmissions and denying the transmission of said coupon if said data corresponding to said at least one coupon has been transmitted to said mobile station for said predetermined number of transmissions.

16. The method of claim 10, wherein said data corresponding to said at least one coupon includes data corresponding to at least one menu having at least one coupon selection and said step of transmitting said data from said database over a radio communication network to at least one mobile station includes

transmitting said data corresponding to said at least one menu having at least one coupon selection.

17. The method of claim 16, further comprising selecting from said at least one menu at least one coupon, and sending a signal corresponding to said selected at least one coupon to said database over said radio network.

18. The method of claim 10, wherein said step of transmitting said data from said database over a radio communication network to at least one mobile station includes transmitting said data in data packets over said radio communication network.

19. A method for distributing and redeeming at least one electronic coupon comprising the steps of:

creating data corresponding to said at least one coupon;

placing said data corresponding to said at least one coupon into a database;

transmitting said data from said database over a radio communication network to at least one mobile station to place said at least one coupon on said mobile station; and

transmitting coupon redemption data to said database upon redemption of said at least one coupon.

20. The method of claim 19, further comprising:

transmitting data to said at least one mobile station erasing said at least one coupon from said mobile station in response to said coupon redemption data.

21. The method of claim 19, wherein said radio communication network includes a cellular communication network.

22. The method of claim 19, wherein said step of transmitting said data from said database over a radio communication network to said at least one mobile station, is performed in response to a signal from a communication from said at least one mobile station.

23. The method of claim 22, further comprising the step of:

checking if said data corresponding to said at least one coupon has been transmitted to said mobile station.

24. The method of claim 23, wherein said checking step includes allowing for the transmission of said at least one coupon if said data corresponding to said at least one coupon has not been transmitted to said mobile station for a predetermined number of transmissions and denying the transmission of said coupon if said data corresponding to said at least one coupon has been transmitted to said mobile station for said predetermined number of transmissions.

25. The method of claim 19, wherein,

said data corresponding to said at least one coupon includes data corresponding to at least one menu having at least one coupon selection; and

said step of transmitting said data from said database over a radio communication network to at least one mobile station includes transmitting said data corresponding to said at least one menu having at least one coupon selection.

26. The method of claim 25, further comprising selecting from said at least one menu at least one coupon, and sending a signal corresponding to said selected at least one coupon to said database over said radio communication network.

27. The method of claim 19, wherein said step of transmitting said data from said database over a radio communication network to at least one mobile station includes transmitting said data in data packets over said radio communication network.

28. A method for distributing and redeeming at least one electronic coupon comprising the steps of:

creating first and second data corresponding to at least one coupon;

placing said first and second data into a database;

transmitting said at least one coupon to at least one mobile station over a radio communication network by steps comprising:

transmitting said first data from said database over said radio communication network to at least one mobile station; and

transmitting said second data from said database over said radio communication network to said at least one mobile station, in response to a signal from said at least one mobile station after said at least one mobile station has received said first data; and

receiving data in said database upon redemption of said at least one coupon verifying the redemption of said at least one coupon.

29. The method of claim 28, wherein said radio communication network includes a cellular communication network.

30. The method of claim 28, wherein said first data includes at least one menu and said step of transmitting said second data includes transmitting at least one coupon corresponding to said at least one menu selection to said mobile station.

31. The method of claim 28, wherein said step of transmitting said first data over said radio communication network to at least one mobile station includes transmitting said data in data packets over said radio communication network.

32. The method of claim 28, wherein said step of transmitting said second data over said radio communication network to at least one mobile station includes transmitting said data in data packets over said radio communication network.

33. The method of claim 28, further comprising:

transmitting data to said at least one mobile station erasing said at least one coupon from said mobile station in response to said redemption data.

34. An electronic couponing system comprising:

a storage device for storing a database, said database including data corresponding to at least one coupon and data for monitoring the use of said at least one coupon, said storage device including a receiver for receiving transmissions corresponding to use of said at least one coupon;

a transceiver in electronic communication with said storage device, for transmitting at least a first portion of said data corresponding to said at least one coupon from said database to at least one mobile station over a radio communication network;

an answerer for receiving communications from said at least one mobile station and for sending electronic signals indicating that a communication from said at least one mobile station has been made;

an automatic service attendant in electronic communication with said answerer and said storage device, said service attendant responsive to said electronic signals and for communicating with said storage device to obtain at least a second portion of said data corresponding to said coupon and transmit said second data portion to said at least one mobile station over said radio communication network.

35. The system of claim 34, wherein said transceiver includes a modem.

36. The system of claim 34, wherein said database additionally includes data for erasing said at least one coupon from said at least one mobile station, and said erasing data is transmitted to said at least one mobile station over said radio communication network via said transceiver.

37. The system of claim 34, wherein said first data portion is at least one coupon selection menu.

38. The system of claim 34, wherein said second data portion is at least one redeemable coupon.

39. The system of claim 34, additionally comprising means in communication with said database in said storage device for checking whether the transmission of said at least a second portion of said data corresponding to said coupon is permissible.

40. The system of claim 39, wherein said checking means is in said service attendant.

41. The system of claim 39, wherein said transceiver includes a modem.

42. An electronic couponing system comprising:

means for storing at least one database, said at least one database including data corresponding to at least one coupon and data for monitoring the

use of said at least one coupon, said storage device including a receiver for receiving transmissions corresponding to use of said at least one coupon;

means, in electronic communication with said storage means, for transmitting at least a first portion of said data corresponding to said at least one coupon from said database to at least one mobile station over a radio communication network; and

means in electronic communication with said storage means for receiving at least one signal from said at least one mobile station and for transmitting at least a second portion of said data corresponding to said coupon to said at least one mobile station over said radio communication network in response to said at least one signal.

43. The system of claim 42, wherein said means for receiving at least one signal from said at least one mobile station and for transmitting at least a second portion of said data corresponding to said coupon to said at least one mobile station over said radio communication network in response to said at least one signal, comprises:

an answerer for receiving communications from said at least one mobile station and for sending electronic signals indicating that a communication from said at least one mobile station has been made; and

an automatic service attendant in electronic communication with said answerer.

44. The system of claim 42, wherein said transmitting means includes a transceiver.

45. The system of claim 42, wherein said transceiver includes a modem.

46. The system of claim 42, wherein said database additionally includes data for erasing said at least one coupon from said at least one mobile station, and said erasing data is transmitted to said at least one mobile station over said radio communication network via said transmitting means.

47. The system of claim 42, wherein said first data portion is at least one coupon selection menu.

48. The system of claim 42, wherein said second data portion is at least one redeemable coupon.

49. The system of claim 43, additionally comprising means in communication with said database in said data storage means for checking whether the transmission of said at least a second portion of said data corresponding to said coupon is permissible.

50. The system of claim 49, wherein said checking means is in said service attendant.

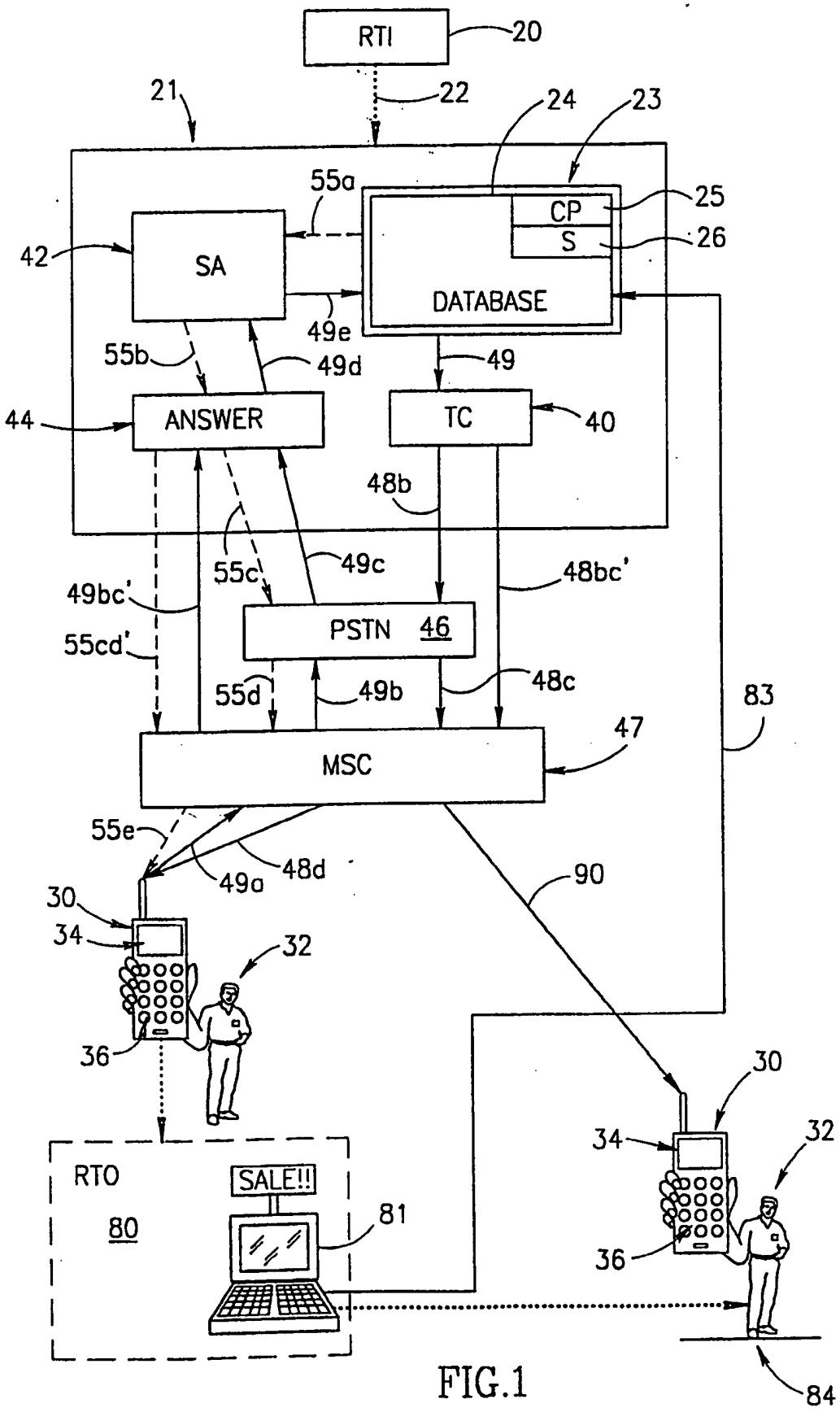
RTI
20
21
22
24
23
55a
25
CP
S
26
42
SA
DATABASE
49e
55b
49d
49
44
ANSWER
TC
40
48b
55c
49c
48bc'
49bc'
PSTN 46
55cd'
55d
49b
48c
83
47
MSC
55e
48d
49a
90
30
34
32
36
RTO
80
SALE!!
81
30
34
32
36
84

FIG.1

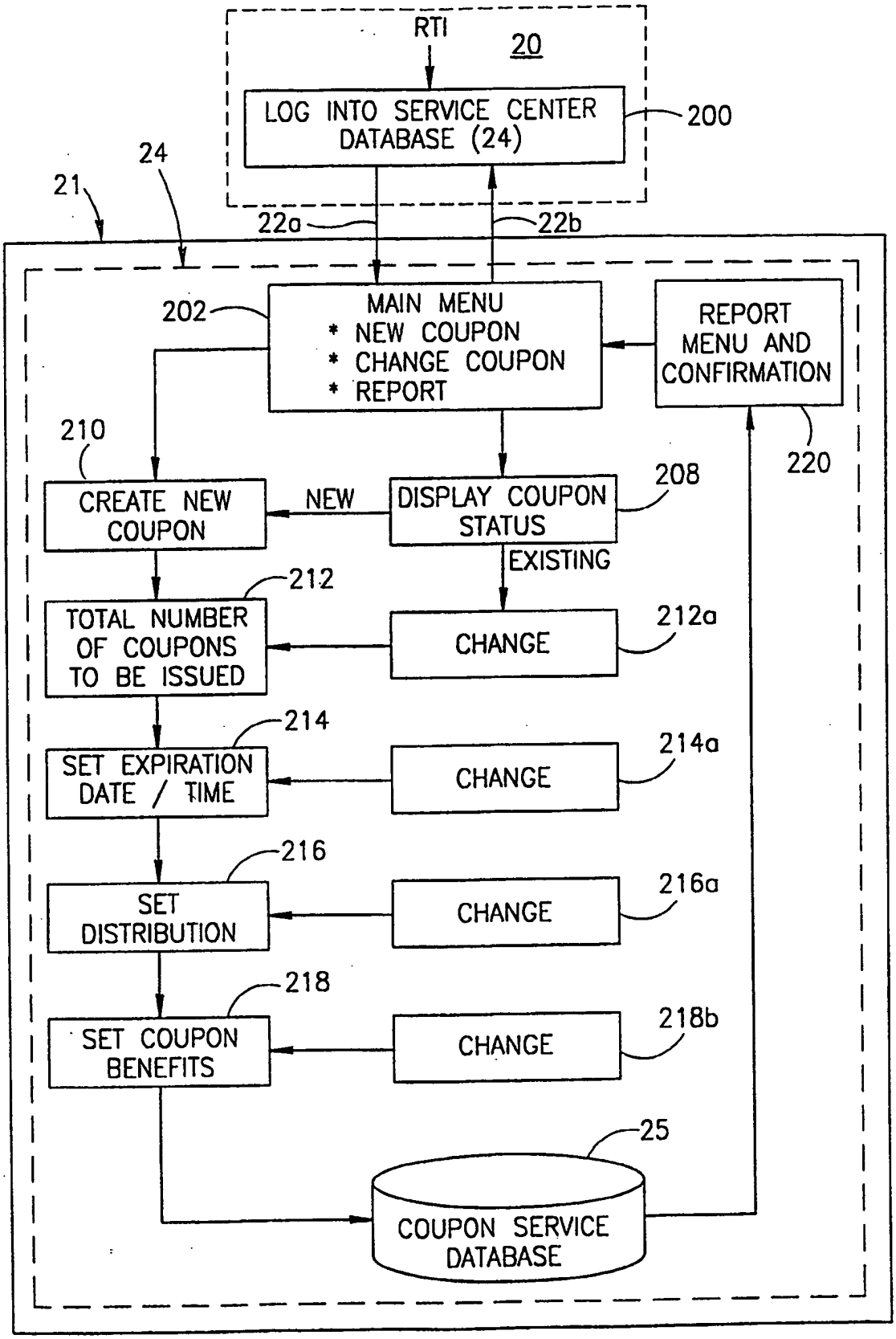
RTI
20
LOG INTO SERVICE CENTER DATABASE (24)
200
24
21
22a
22b
202
MAIN MENU
* NEW COUPON
* CHANGE COUPON
* REPORT
REPORT MENU AND CONFIRMATION
220
210
CREATE NEW COUPON
NEW
DISPLAY COUPON STATUS
208
EXISTING
212
TOTAL NUMBER OF COUPONS TO BE ISSUED
CHANGE
212a
214
SET EXPIRATION DATE / TIME
CHANGE
214a
216
SET DISTRIBUTION
CHANGE
216a
218
SET COUPON BENEFITS
CHANGE
218b
25
COUPON SERVICE DATABASE

FIG.2

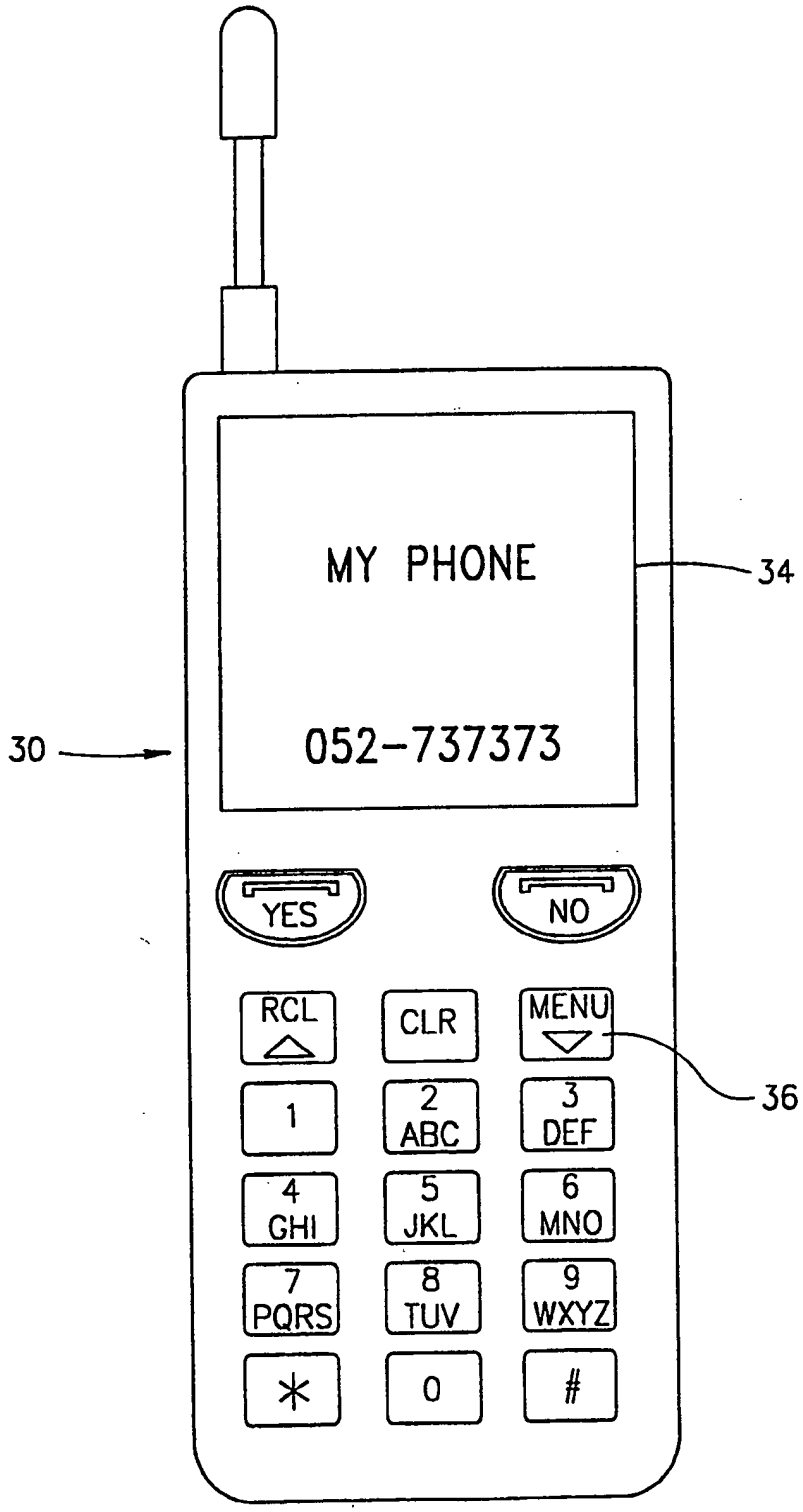
MY PHONE
052-737373
34
30
YES
NO
RCL
CLR
MENU
36
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3A

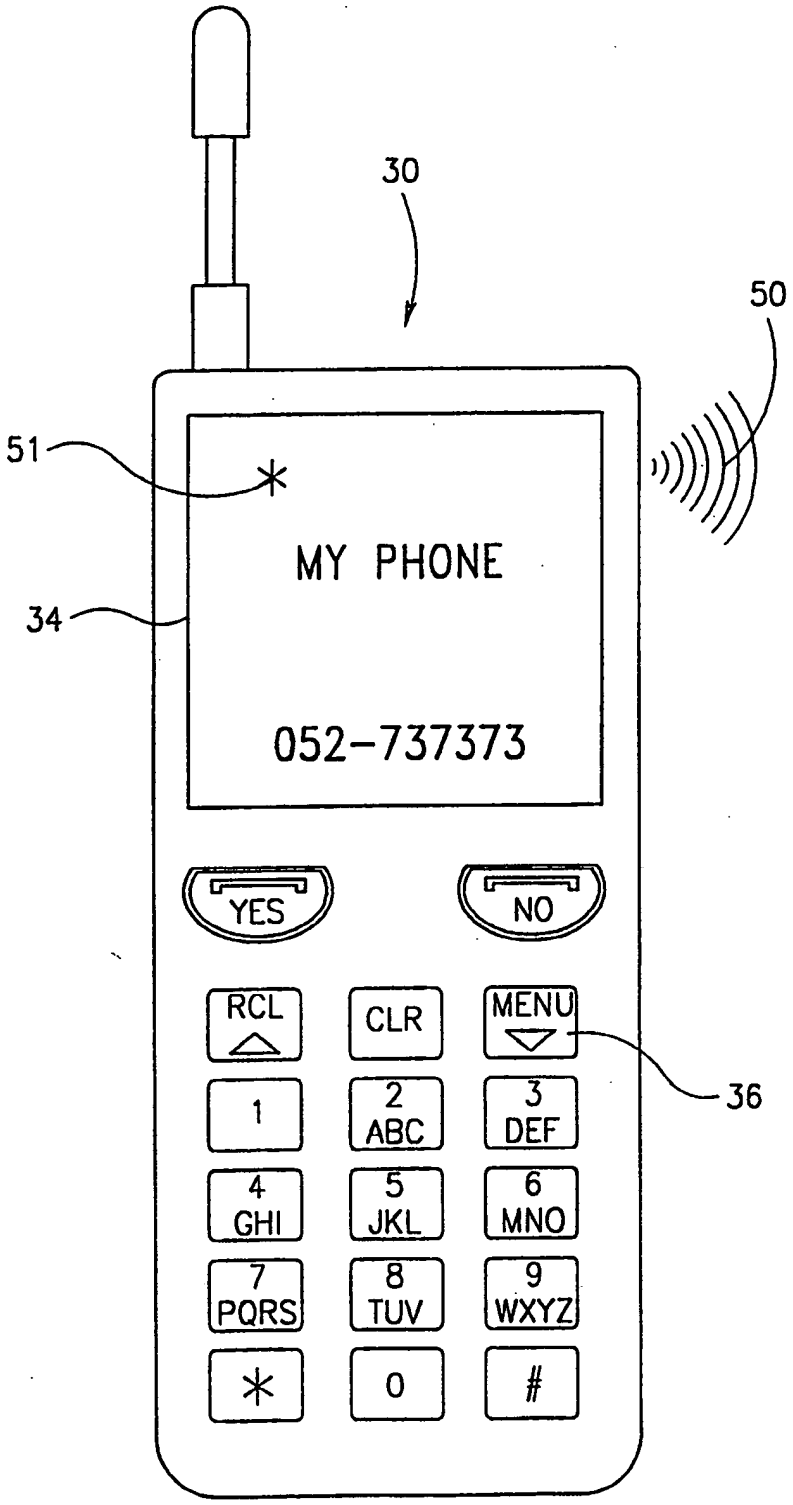
30
50
51
34
MY PHONE
052-737373
YES
NO
RCL
CLR
MENU
36
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3B

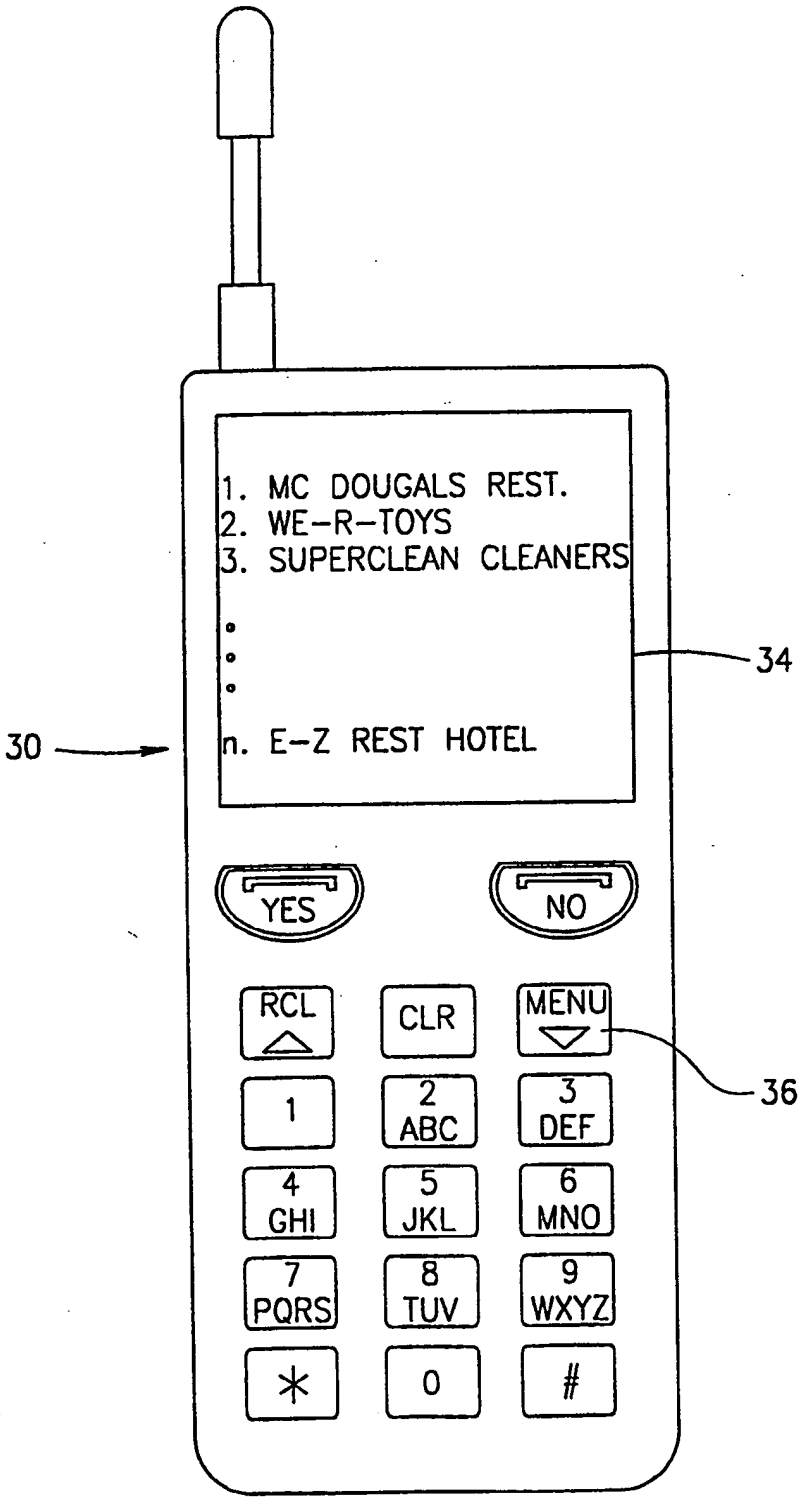
1. MC DOUGALS REST.
2. WE-R-TOYS
3. SUPERCLEAN CLEANERS
n. E-Z REST HOTEL
30
34
36
YES
NO
RCL
CLR
MENU
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3C

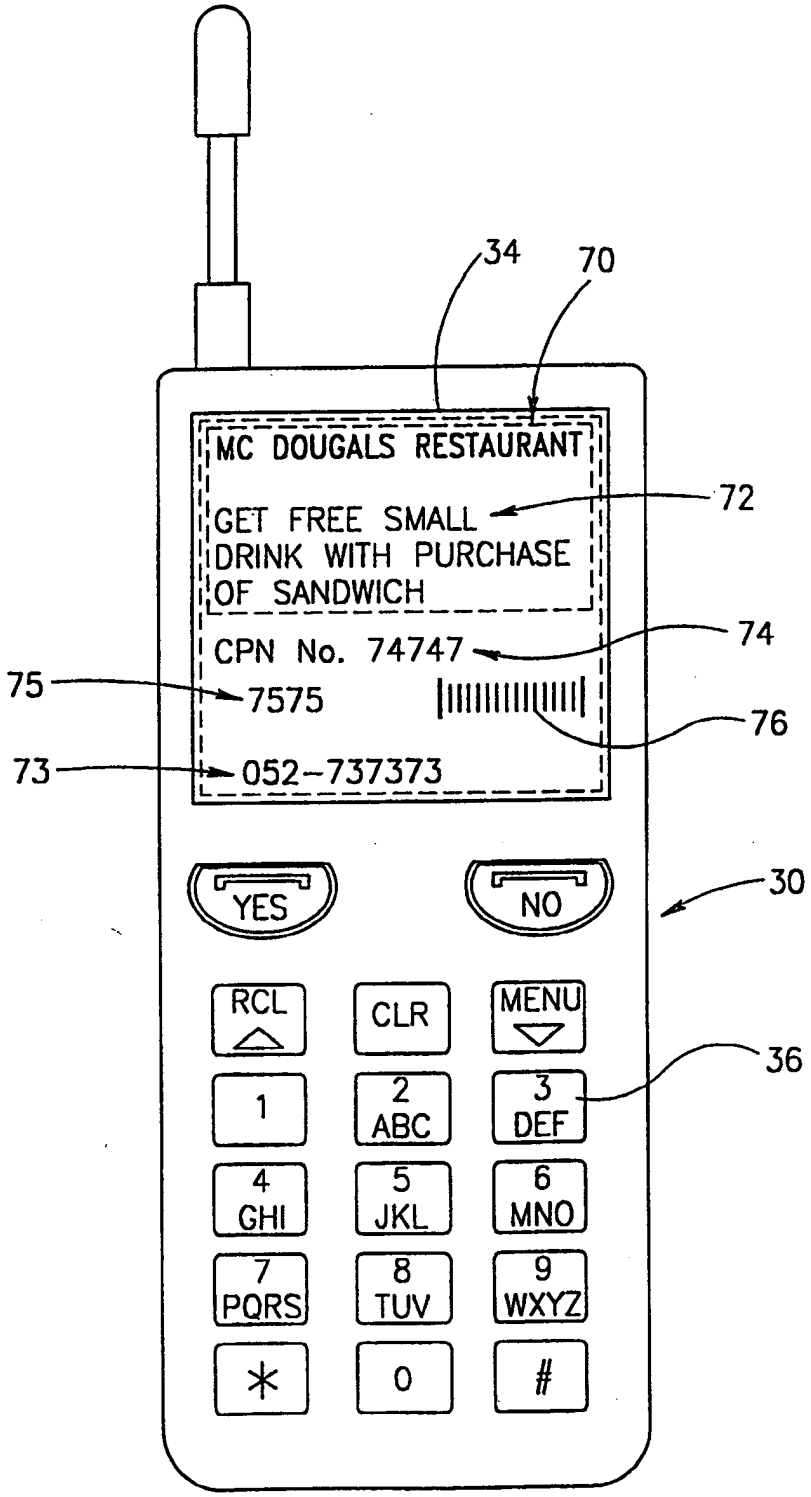
34
70
MC DOUGALS RESTAURANT
72
GET FREE SMALL
DRINK WITH PURCHASE
OF SANDWICH
CPN No. 74747
74
75
7575
76
73
052-737373
YES
NO
30
RCL
CLR
MENU
36
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3D

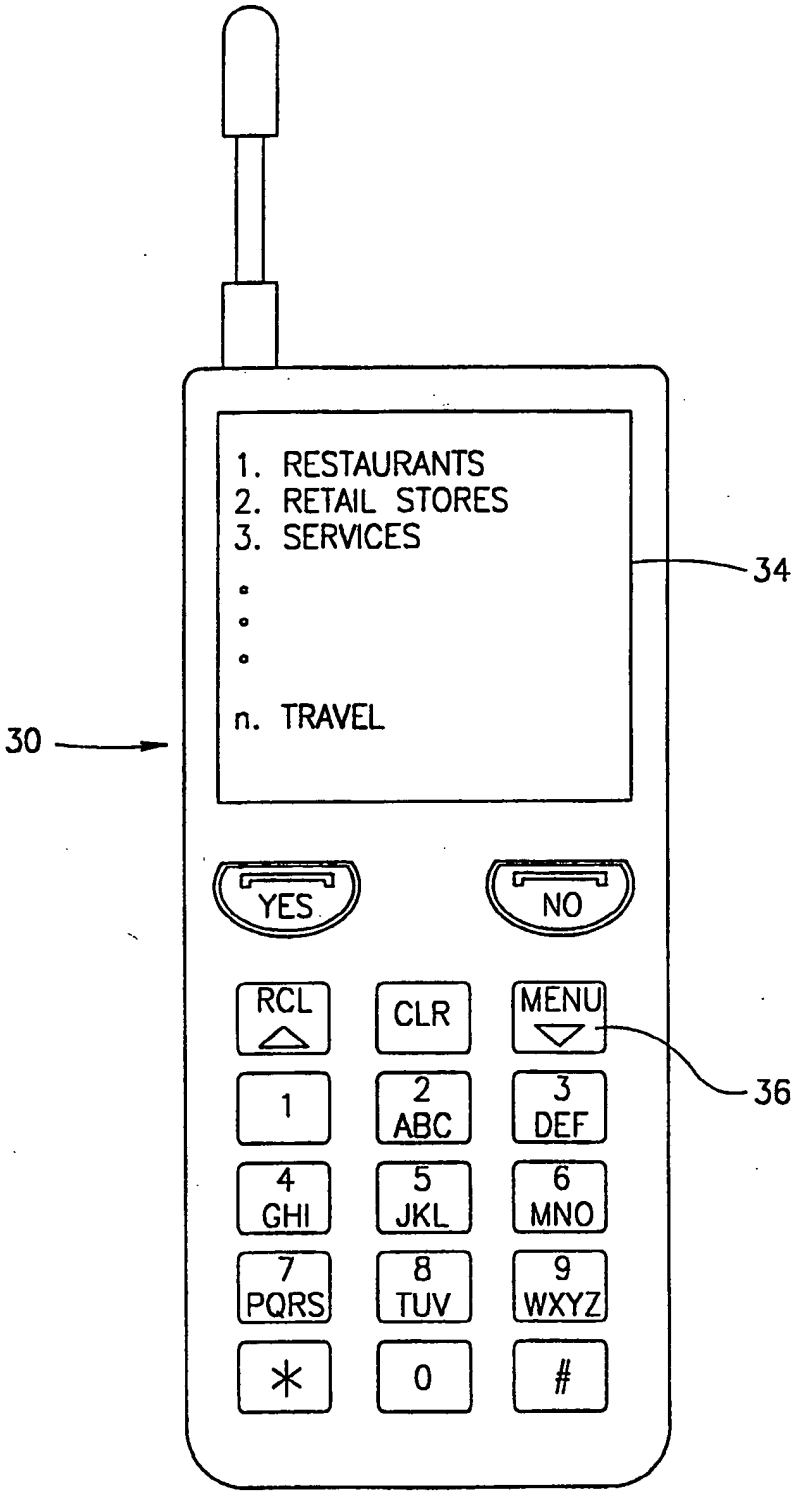
1. RESTAURANTS
2. RETAIL STORES
3. SERVICES
n. TRAVEL
30
34
36
YES
NO
RCL
CLR
MENU
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3E

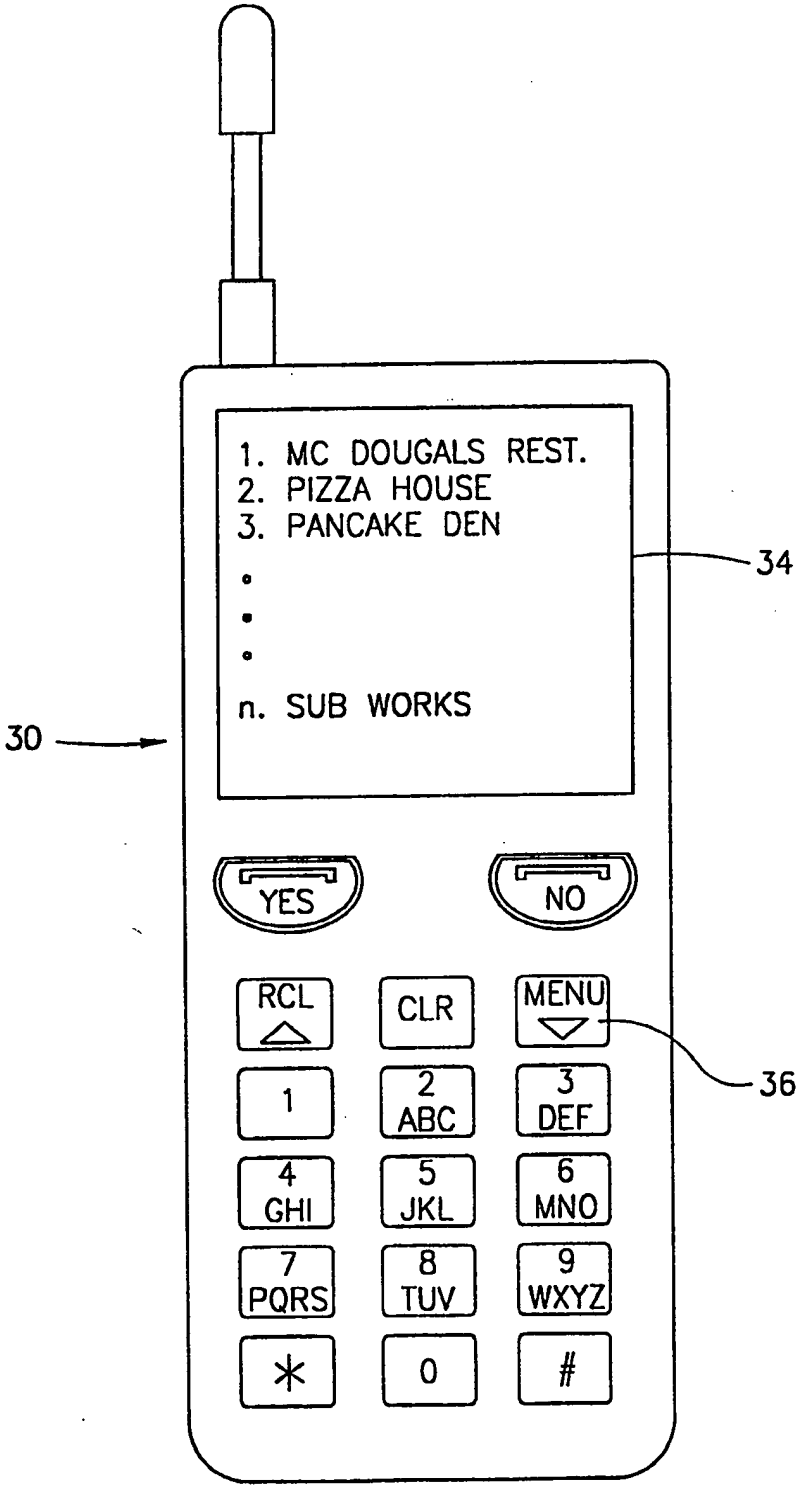
1. MC DOUGALS REST.
2. PIZZA HOUSE
3. PANCAKE DEN
n. SUB WORKS
34
30
YES
NO
RCL
CLR
MENU
36
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3F

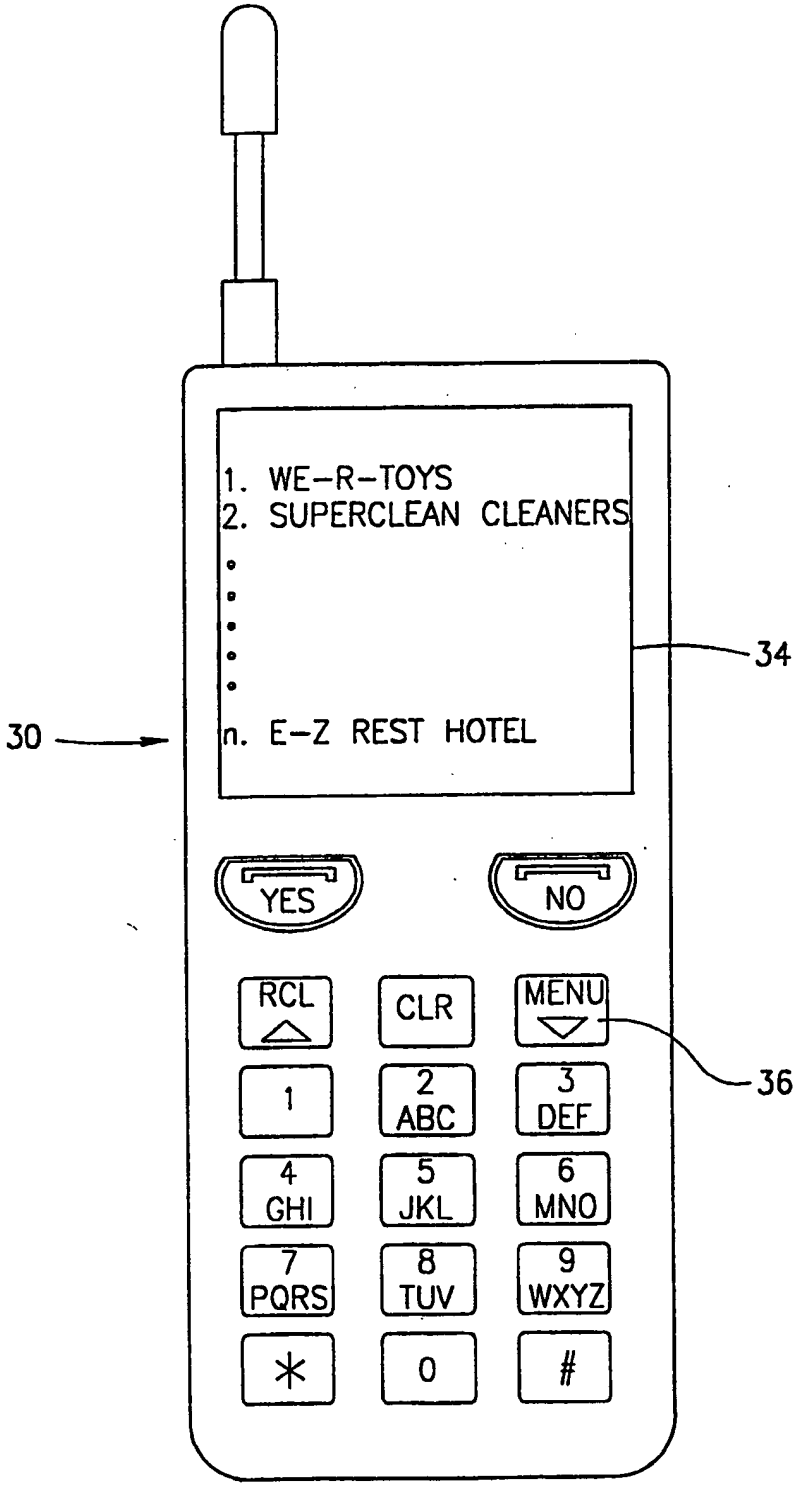
1. WE-R-TOYS
2. SUPERCLEAN CLEANERS
n. E-Z REST HOTEL
30
34
36
YES
NO
RCL
CLR
MENU
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
*
0
#

FIG.3G

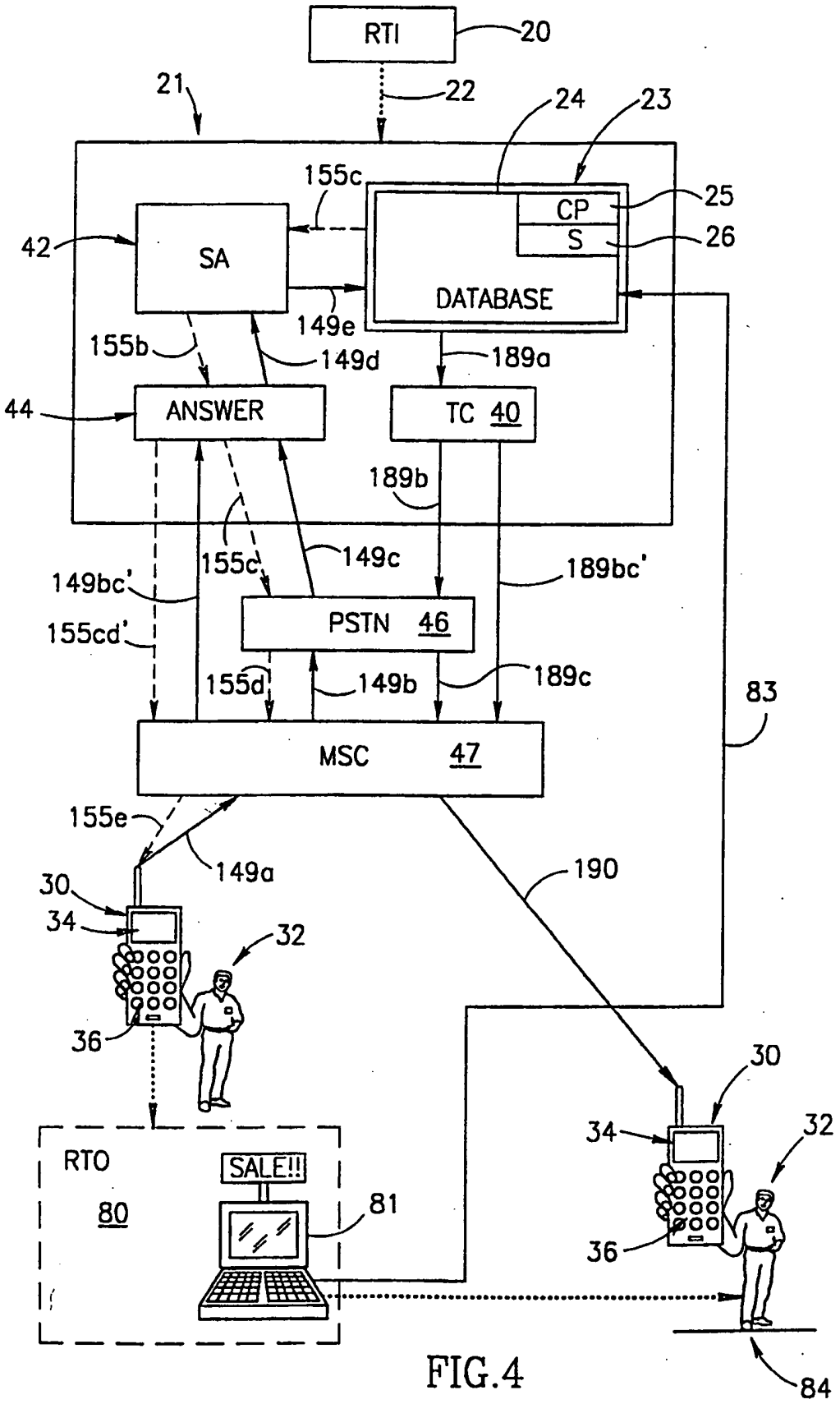
RTI
20
21
22
24
23
155c
CP
25
S
26
42
SA
DATABASE
149e
155b
149d
189a
44
ANSWER
TC 40
189b
155c'
149c
149bc'
189bc'
155cd'
PSTN 46
155d
149b
189c
83
MSC 47
155e
149a
190
30
34
32
36
RTO
80
SALE!!
81
30
34
32
36
84

FIG.4